

SPECIAL PROVISIONS

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1. SCOPE OF WORK

This project is the construction of a 36' x 96' Engineered Post Frame storage building, including concrete pier footings, gravel surfacing, and electrical lighting and outlets.

2. PROJECT MEETINGS

Pre-Construction Conference. After the Contract has been awarded, but before the start of construction, a pre-construction conference will be held at a time and place mutually agreed to by the parties. The conference shall be attended by the following: the Contractor and his superintendent; the principal subcontractors; representatives of principal suppliers and manufacturers, as appropriate; the Engineers and his construction observer; representatives of the Owner and others as appropriate.

Unless previously submitted, the Contractor shall bring the following submittals to the conference: list of proposed Subcontractors; proposed construction schedule; schedule for submitting shop drawings and other submittals; schedule procurement dates; construction technique submittal forms (as applicable); preliminary payment schedule; and tentative schedule of values. Work shall not start prior to the Engineer's receipt of these submittals. The Engineer will preside at the conference and will arrange for keeping the minutes and distributing copies of the minutes to all persons attending the meeting.

3. UTILITIES AND BARRIERS

Notification. The Contractor shall contact the one call locate number in advance of performing any excavation work on the site to obtain utility locates over the entire area to be impacted by construction of the project. The Contractor shall immediately notify the Engineer of the discovery of any utilities that are in conflict with the work that were not previously identified in the plans.

Identification. All utilities that may conflict with the work shall be the Contractor's responsibility to locate before any excavation is performed. Field markings provided by the utilities shall be preserved by the Contractor until actual excavation commences. All utility locations on the Drawings should be considered approximate and should be verified in the field by the Contractor. The Contractor shall also be responsible for locating all utilities that are not located on the Drawings.

Temporary Utilities. The Contractor may use power, water and restrooms in the existing service shop during construction. Contractor shall provide temporary telephone (may be cell phone), first aid, fire protection, and other utilities and services necessary for the performance of the work. All fees, charges, and other costs associated therewith shall be paid for by the Contractor.

Conflicts with Existing Utilities. For any utilities shown on the plans which are damaged or require temporary support to allow performance of the work, the Contractor shall contact the utility's owner and make all arrangements and pay all costs associated with the repair and/or temporary support of the utility. The Contractor shall comply with all requirements of the utility's owner.

The Contractor is responsible for the repair of any utilities that were properly marked by the utility locator and damaged by the Contractor, whether they are shown on the plans or not.

Barriers. The Contractor shall temporarily remove all fences, barricades, minor structures, and other obstructions that interfere with the prosecution of the work. Removal shall not extend beyond designated construction limits or right-of-way without first obtaining written authorization from the Owner.

Fences and barricades used for the confinement or exclusion of livestock, animals, or persons shall be replaced at the end of each workday to the extent necessary to perform the restrictive intent of the barrier.

Unless otherwise directed by the Engineer or indicated on the Drawings, all barriers so removed shall be replaced following the completion of the work to as good or better condition than existed.

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Unless otherwise directed by the Engineer or indicated on the Drawings, all barriers so removed shall be replaced following the completion of the work to as good or better condition than existed prior to the start of work. The requirement applies to small trees and decorative shrubs as well as fences, barricades, and minor structures.

The Contractor shall replace at his own expense all barriers damaged or destroyed.

5. REPAIR AND REPLACEMENT QUALITY

General. Items requiring repair or replacement due to damage or removal or otherwise necessitated in the course of pursuance of the work and which are not otherwise specified herein, shall be repaired or replaced to the following levels of quality.

Paved and Gravel Roads, Driveways, and Sidewalks. Repair or replacement shall be to a thickness and grade matching the existing condition. Quality of materials and methods shall comply with respective sections of the current edition of the Montana Public Works Standard Specifications.

Water and Sewer Main and Services. Repair or replacement shall be in a manner consistent with the existing condition using materials conforming to the Uniform Plumbing Code, the current editions of the DEQ 1 and DEQ 2 circulars, American Water Works Association Standard Specifications, and the requirements of the Montana Department of Environmental Quality. Construction shall also comply with the current edition of the Montana Public Works Standard Specifications. Repair or replacement will not be allowed with materials like the existing installation if they do not conform to the above-referenced standards.

Electrical, Telephone, Cable TV, Natural Gas, and Petroleum Lines. Repair or replacement shall be to the standards required by the utility owner and at the utility owner's option may be performed by the utility owner with full cost assessed to the Contractor.

Fences. All fences adjacent to any work site are to be maintained to the satisfaction of the abutting property owners. The Contractor shall notify the landowners of the need to temporarily removed or relocate fences for access to the work and shall coordinate such activities with the respective landowners in regard to removal, relocation, and restoration of fences prior to commencing work.

Any fence removed or destroyed during the course of the Contract shall be reinstalled or reconstructed in like kind at no cost to the Owner or the landowner. The cost for this work shall be considered incidental and no additional compensation will be allowed.

Other Items. Repair or replacement of other items not covered by the preceding shall be to the standards required by the owner of the item and at the owner's option may be performed by the owner of the item with full cost assessed to the Contractor.

Decisions Regarding Repair Versus Replacement. The decision of repair versus replacement of an affected item shall be at the discretion of the Engineer upon consultation with the owner of the item. The decision shall be based on a determination of whether repaired quality can equal the quality of a replacement installation. The Engineer's authority shall be final in this regard.

Limits of Repair and Replacement. The limits of areas to be repaired or replaced shall be determined by the Engineer in the field based on the extent of damage or removal sustained. The determination shall be based on insuring that all damaged or removed portions of the existing installation are fully restored. The authority of the Engineer shall be final in this regard. All work effects outside limits as described in these Contract Documents are subject to repair and replacement quality as described herein.

Repair by Party Owning or Maintaining Item. The party owning or maintaining the item under consideration shall have the exclusive right to undertake repair or replacement themselves and charge the Contractor for full costs incurred or to direct and supervise the Contractor to repair or replace the item to their standard of quality. The authority of the owner of the item shall be final in this regard.

6. GENERAL CONSTRUCTION REQUIREMENTS

Quality Assurance. The Engineer will monitor the construction of work covered by this section to determine if the work is being performed in accordance with the contract requirements. The Engineer does not have the authority or the means to control the Contractor's methods of construction. It is, therefore, the Contractor's responsibility to utilize all methods, equipment, manpower, and other means necessary to assure that the work is installed in compliance with the Drawings and Specifications, and laws and regulations applicable to the work. All buried work items shall be installed in the presence of the Engineer or may not be considered for payment.

Grade and Alignment. The Contractor shall provide all construction staking as required to define the locations of the improvements to be installed under this contract.

Tolerances. Construction tolerances for the work shall be as outlined in the Technical Specifications.

Construction Limits. Construct activities shall be limited to area no more than 40-feet from the edge of excavation and embankment, or any other improvements shown on the plans. Equipment access between roads and the construction site shall be limited to a single route to minimize disturbance. Disturbance and equipment access beyond these limits is not allowed without the written approval of both the Engineer and the Owner of the affected property. If so approved, disturbance beyond construction limits shall meet all requirements imposed by the landowner; this includes existing roads used and/or improved as well as the construction of new access roads. Special construction, reclamation, or post-construction road ripping or other closure provisions required by the landowner on access roads beyond the construction limits shall be performed by the Contractor at no additional cost to the Owner.

Areas of Disturbance. Approved areas of disturbance are those areas disturbed by construction activities within the construction limits and along designated or approved access routes. Such areas shall be fine graded to blend with the existing terrain. Other areas that are disturbed by the Contractor's activities outside the limits noted above will be considered as site damage or unapproved areas of disturbance subject to the repair and replacement quality as specified herein. Such areas will also require the reclamation operations noted above and as specified herein, but costs of such work shall be borne by the Contractor. This includes areas selected by the Contractor outside the defined construction limits for mobilization, offices, equipment, or material storage. Stockpiling of gravel on-site is not allowed except within the parking lot at locations approved by the Engineer.

7. MATERIAL SOURCES

If additional material is needed for embankment or other materials, the Contractor will be responsible for placement and import from an off-site site location secured by the Contractor. The material shall be clean material, suitable for use as fill material and subject to the approval of the Engineer.

If excess material is generated during construction, the Contractor shall be responsible for export and disposal at an off-site location secured by the Contractor at no additional cost to the Owner.

Haul routes shall be within the corridors of disturbance created by this project.

8. ENVIRONMENTAL PROTECTION

The Contractor shall comply with all laws and regulations of the United States Corps of Engineers and Environmental Protection Agency, Montana Department of Fish, Wildlife and Parks, Department of State Lands, Department of Environmental Quality, the Department of Natural Resources and Conservation, and with all other Federal, State, and Local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumen's, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

The Contractor also agrees to comply with the requirements of any permits obtained for the project by the Owner. These permits include but may not be limited to the permits listed under the Permits and Regulatory Requirements section. Copies of any of these permits are available upon request from the Engineer.

The Contractor shall be responsible for submitting and obtaining a temporary discharge permit from the Montana Department of Environmental Quality for the discharge of any water related to the construction of this project. A construction Dewatering Discharge Permit, issued by the Department of Environmental Quality, is required if water from construction is discharged to state waters. The Department of Environmental Quality must be contacted immediately if either contaminated soil or contaminated groundwater is encountered.

The Contractor shall be responsible for submitting and obtaining a storm water discharge permit from the Montana Department of Environment Quality. The cost of any erosion control measures, or other work required by the permit shall be included in the bid and are considered incidental to the project.

9. WEED CONTROL

Prior to mobilizing equipment to the project site, the Contractor shall clean his equipment and vehicles to assure no weeds are imported. If there is an abnormal growth of noxious weeds on a project site after construction as determined by the Owner or local weed control authority, the Contractor will be responsible for weed control under the contract warranty.

10. PERMITS AND REGULATORY REQUIREMENTS

Jurisdiction. The performance of this work shall be under the jurisdiction of the following agencies, departments, and standards and compliance with the requirements thereof is required:

Federal Level: United States Law

State Level: Department of Environmental Quality; Department of Fish, Wildlife & Parks; Montana Department of Transportation; Montana Building Code Division; International Building Code; National Electric Code; State annotations to these codes; and Montana State Law.

Local Level: Custer County

Contractor's Responsibility. The Contractor shall familiarize himself with the requirements of all regulatory agencies pertaining to the performance of the work on the project.

The Contractor shall secure and pay for all permits, licenses, and fees necessary for the performance of the work.

The Contractor shall perform all work in accordance with the regulatory requirements. Any conflict between the Contract Documents and the regulatory requirements shall be brought to the immediate attention of the Engineer.

The following permits shall be in place prior to starting construction:

Permit	Entity Providing Permit	Entity Submitting Permit
Building Permit	State of Montana	Contractor
Electrical Permit	State of Montana	Contractor

11. SMOKE AND DUST CONTROL

The Contractor shall have informed himself of all applicable State Board of Health requirements and similar State or Federal requirements pertaining to control of or abatement of air pollution. The Contractor shall have provided or be prepared to provide such air pollution control measures as are required to comply with the minimum standards established by such agencies.

Hauling of material and transport of equipment along public roadways or through the towns and adjacent other structures and dwellings shall require effective dust abatement procedures. This also applies to the unloading and placement of spoils material at deposition sites. The Contractor shall utilize environmentally sound methods for watering and/or otherwise chemically treating dust-generating surfaces to comply with all applicable legal standards for airborne particulates. Prior to any work, the Contractor shall submit a written plan for dust abatement procedures identifying at a minimum the following:

- Times and nature of dust generating activity on public roads and at deposition sites.
- Nature and chemical characterization of dust abatement materials to be used.
- Method of application of dust abatement materials to be used.
- Time schedule for application of dust abatement materials to be used.
- Availability of equipment and operators for emergency application of dust abatement materials at other than scheduled times.

Watering for dust control is considered incidental to the Contract and shall be performed at no additional cost to the Owner.

12. SITE CLEAN UP

The Contractor shall be responsible for final clean up at the end of the project to a level satisfactory to the Owner. All construction debris, no matter how small, shall be collected and removed from the site. All wheel ruts shall be filled in and be leveled to match the adjacent grade and material. Re-seeding, re-sodding, or other re-surfacing may be necessary to repair any construction related impacts or damage.

All survey markings, stakes, temporary paint marks, flagging and other devices shall be removed regardless of who installed them. All excess pavement, concrete, gravel, soil, or other construction materials not intended for permanent use shall be removed.

All final slopes shall be dressed manually to remove woody debris, accumulated trash and oversized material. Any new slope or topsoil surfaces shall be hand raked to provide a uniform appearance and seeded including erosion control blanket or sodded. The Contractor shall dress all gravel, pavement and concrete edges to eliminate abrupt edges and provide a smooth transition. All construction related temporary sediment control devices shall be removed as soon as practical.

Unless specifically noted otherwise, all final cleanup work shall be incidental to other work items in the contract and no separate payment shall be made.

13. SANITARY FACILITIES

Sanitary facilities are available on site within the service shop.

14. INCORPORATION OF MONTANA PUBLIC WORKS SPECIFICATION

All work not specially described in the technical specifications of these bid documents shall be performed in compliance with the applicable technical specifications section found in Montana Public Works Specification- Sixth Edition. The Montana Public Works Specifications shall be modified to require the Contractor to provide compaction and concrete testing through an independent testing laboratory, not the Owner.

15. CONSTRUCTION SURVEYS

Construction survey is the responsibility of the Contractor and shall include the building location and site grading.

16. MEASUREMENT AND PAYMENT

- A. **Scope:** This section describes the method of measurements and the basis of payment for all work shown on the drawings and required by the Contract Documents. This measurement and payment section shall take precedence over all other references to measurement and payment referenced in these specifications (with the exception of any addenda).
- B. **Bid Prices:** The bid price for each item of the Contract in the Bid Proposal shall cover all work shown on the drawings and be defined in the specifications and other contract documents. All costs in connection with the work including furnishing all materials, equipment, and tools, and performing all necessary labor and supervision to fully complete the work, shall be included in the lump sum or unit price bid items on the proposal. The amounts shown on the proposal shall be the contract price.

No item that is required by the Contract Documents for the proper and successful completion of the work will be paid for outside of or in addition to the prices submitted in the Bid Proposal. All work not specifically set forth as a pay item in the Bid Proposal shall be considered a subsidiary obligation of the Contractor and all cost in connection therewith shall be included in the prices bid.

Retainage at the amounts specified in the General Conditions will be withheld from each progress payment.

- C. **Estimated Quantities:** Any estimated quantities stipulated in the Bid Proposal or other Contract Documents are approximate and are to be used only as a basis for estimating probable cost of the work and for the purpose of comparing the bids submitted for the work.
- D. **Method of Measurement:** No measurement will be made on bid items representing a lump sum bid.

17. GEOTECHNICAL INFORMATION

Soils in this area are generally classified as Silty Clay, USCS type CL-ML.

End of Section

01 00 00 - General Requirements

RELATED WORK NOT IN CONTRACT: Items indicated on Drawings as “N.I.C.” (Not in Contract), By Owner, or By Others as noted on Drawings.

LOCATE CALL: In addition to requesting local utilities to locate underground utilities and per MCA 69-4-501 to 506 the contractor is required by State Law to notify a One-Call location service before all underground excavation. Notification must be received at least TWO (2) working days prior to excavation. Call 1-800-424-5555.

LINES & LEVELS: Before starting Work, locate all general reference points. Take such steps as are necessary to prevent their dislocation or destruction. If disturbed or destroyed, replace as directed. For additions and alterations confirm existing construction and measurements and make adjustment for variations.

SPECIFICATIONS:

- A. Grouping of data in the specifications is for the convenience of the Contractor and conforms roughly to customary trade practice. The Architect is not bound to define the limits of any subcontract.
- B. These project specifications are open to ‘or equal’ options unless noted otherwise.
 - a. Contractor assumes the risk and associated costs to match specifications when any variance occurs without prior approval from the Architect via addenda or submittal review.
 - b. Where ‘Approved Manufacturers’ is listed in the Specifications, please note that product variances still need to be preapproved – the companies listed have products that generally meet specifications, but this need to be assessed and approved for each project.

PRIOR USE AND OCCUPANCY: The Owner reserves the right to use or occupy any part of the building or to use equipment installed under the Contract, prior to final acceptance. Such use or occupancy shall not constitute acceptance of the work or any parts thereof.

MANUFACTURER'S DIRECTIONS: Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer unless herein specified to the contrary.

SUBMITTALS:

- A. The Contractor shall submit to the Architect, for approval, any Shop Drawing, Product Data, and/or Samples as may be required for the construction of any part of the Work. Any Work that is done, or material ordered prior to the approval of such information, shall be at the Contractor's risk. Provide physical samples whenever a color or finish selection is required and as specified in associated Sections.
- B. The Contractor shall group submittals by trade and/or supplier into a single, cohesive submittal for the purpose of reviewing whole systems, installations, processes, etc. Submittals may be rejected if the Architect deems them incomplete.
- C. The Contractor shall clearly indicate products, options, assemblies, etc. pertinent to the associated submittal and specifications for the project and call attention to any item requiring selection by the Architect or Engineer tasked with reviewing the submittal. Submittals may be rejected if the Architect deems them to be lacking in clarity.
- D. Submit five (5) copies in 8-1/2” x 11” folded sizes to the General Contractor. Upon their stamped approval, they will be forwarded to the Architect's office. Following the review of the Architect and their Consultant, the Shop Drawings will be returned to the General Contractor marked NO EXCEPTIONS TAKEN, MAKE CORRECTIONS NOTED, or if necessary, REVISE & RESUBMIT.
Note: Electronic submittals are accepted but will be returned in the format received.

- E. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- F. **SUBMITTALS REQUIRING COLOR SELECTIONS** shall be submitted as early in the project as possible. The Architect may retain all submittals requiring color selections until ALL such submittals have been submitted. The Architect will then prepare coordinated color selections to be approved by the Owner. Upon approval of the color selections by the Owner, the Architect will process the submittal(s) requiring color selections. All submittals requiring color selections shall be accompanied by actual samples of the color and finish selection options. Printed or electronic renditions of the color choices are not acceptable, do not accurately portray true colors, and therefore cannot be used by the Architect to present the coordinated color choices to the Owner. For this reason, only true samples of the actual finish materials will be accepted for color selections. The Architect is not responsible for the delays caused by the failure of the Sub-Contractor or Supplier to submit the correct color samples in a timely manner.
- G. The Architect reserves the right to be reimbursed by the Contractor for time and expense required to process any submittal that does not get approval after the first resubmittal and/or to gather appropriate color samples when proper color samples are not submitted.
- H. Approval of Submittals will be general and shall not relieve the Contractors from the responsibility for proper fitting and construction of the Work, nor from furnishing material and work required by the Contract which may not be indicated on the Submittal when approved. The approval of the Submittal shall not be construed as allowing departures from the plans and specifications, building codes, or other rules and regulations governing installation of materials.
- I. Upon the Contractor's request, or at the Architect's discretion, a sample list of necessary, project-specific submittals will be made available at the beginning of the project.

REQUEST FOR PROPOSAL (RFP):

- A. Contractor responses are due within 7 calendar days after the RFP is issued.
 - a. No associated Work shall be completed before the RFP is approved unless discussed and agreed to by the Architect and Owner.
- B. The Contractor, and each subsequent subcontractor/supplier, are limited to the total markup listed in the Contract for all changes (typically 15%).
 - a. Supervision, Project Management, Subcontractor Liability, Profit, Direct/Indirect Overhead, Clerical, and similar expenses are part of this markup and shall not be tracked separately.
 - b. If applicable, the Contractor may include a 1% Bonding Fee and/or 1% Gross Receipts Tax adder on the tail end of their totals.
- C. The Contractor's formal response shall include:
 - a. Line item breakdowns of quantities and costs for time, materials, and related expenses.
 - i. Labor breakdowns shall include number of personnel, hours per personnel, and associated rates. If prevailing wage rates are applicable to the project, labor rates shall relate to the task at hand.
 - b. If the RFP is deemed to be an explicit Time & Material (T&M) request, the response shall include dates associated to the Work being tracked.
- D. If delays are associated with the RFP, the Contractor shall notify the Architect via written correspondence (e-mail preferred) within 7 calendar days from when the delay took place.
 - a. Delay requests shall include justifications for how they impact the projected substantial completion date.
- E. The breakdowns for the Contractor and each Subcontractor/supplier shall appear on their own invoice or letterhead.
- F. The Architect will review the responses and will either send to the Owner for their ultimate approval; send to their Consultants for review; or request more information/clarification from the Contractor.
 - a. If more information/clarification is requested, the Contractor has another 4 calendar days to provide a revised response.

- b. The Architect reserves the right to be reimbursed by the Contractor for time and expense required to process any RFP that does not get approval after the first round of review and request for additional information.

OPERATION AND MAINTENANCE MANUAL: Per the Substantial Completion Procedures provide Operation and Maintenance (O&M) Manuals as follows:

A. Physical Copy (Provide ONE)

- a. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance information and materials, listing items and their location to facilitate ready access.
- b. Organization:
 - i. Title Page, to include:
 - 1. Subject matter included in the Manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information of the Contractor.
 - 6. Name and contact information of the Architect.
 - 7. Name and contact information for major Consultants to the Architect that designed the systems contained in the manuals.
 - ii. Table of Contents
 - 1. List each product included in the manual, identified by product name, indexed to the content of the volume, and cross referenced to Specification Section number.
 - iii. Manual Contents
 - 1. Organize into sets of manageable size and arrange content by Specification Section, system, subsystem, and equipment. Include updated shop drawings and/or product submittals wherever applicable.
- c. Physical copy is to be bound in a heavy-duty, three-ring binder with Division dividers.
 - i. Identify each binder on the front and spine with printed title "OPERATION AND MAINTENANCE MANUAL" and associated indicator if multiple volumes are needed.
 - ii. Oversize drawings are to be neatly folded to fit with inside the binder.

B. Digital Copy (Provide ONE)

- a. Fully organized and indexed similar to the physical copy issued on a CD, DVD, or flash drive.

C. Types of Manuals

a. Operation Manuals

i. Content

- 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
- 2. Performance and design criteria if Contractor is delegated design responsibility.
- 3. Operating standards, procedures, and logs.
- 4. Wiring, control, and piped system diagrams.
- 5. Precautions against improper use.
- 6. License requirements including inspection and renewal dates.

ii. Descriptions

- 1. Product name and model number. Use designations for systems and equipment indicated on Contract Documents.
- 2. Manufacturer's name.
- 3. Equipment identification with serial number of each component.
- 4. Equipment function.
- 5. Operating characteristics.

6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.
 9. Complete nomenclature and number of replacement parts.
- iii. Operating Procedures
 1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instruction on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
 - iv. Systems and Equipment Controls: Describe the sequence of operation and diagram controls as installed.
 - v. Piped Systems: Diagram piping as installed and identify color-coding where required for identification.

b. Product Maintenance Manuals

- i. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- ii. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Sections.
- iii. Product Information: Include the following, as applicable:
 1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- iv. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions
- v. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- vi. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

CONTRACTOR AND SUBCONTRACTOR WORKER'S COMPENSATION INSURANCE:

The Contractor is required to procure and maintain Worker's Compensation Insurance for his employees. The Contractor shall require all Sub-Contractors similarly to provide Worker's Compensation Insurance. In case any class of employees engaged in work under this contract is not protected or exempt under the Workers' Compensation Statute, the Contractors shall provide and cause each Sub-Contractor to provide adequate employer's General Liability Insurance for the protection of such of his employees that are not otherwise protected.

PERMITS & ORDINANCES: Contractor to procure and pay for general construction permits or certificates required by local authorities having jurisdiction over the Work. Comply with all Federal, State, and Local ordinances applicable to the Work. Sub-Contractors are responsible for obtaining and paying for permits or certificates required for their work, such as electrical or plumbing permits.

CUTTING AND PATCHING: Cutting and patching work will be paid for by the Sub-Contractor requiring the Work to the General Contractor. Does not apply to work not included in Contract.

TESTS: The Owner will pay for tests and inspections they feel necessary for quality assurance, other than those normally required by Public Authorities or unless otherwise specified. The Contractor shall, at his expense, furnish samples for all tests and deliver them to the Testing Agency when and where directed by the Architect. Contractor will pay costs of failed tests and superfluous trips made at the direction of the Contractor. Contractor remains responsible for tests and inspections they feel necessary to provide quality control of their Work.

QUALITY CONTROL: The General Contractor will be responsible for Quality Control of their Work and their subcontractor's Work through their Superintendent who shall continuously monitor the Project.

LAYOUT CONTROL: Layout will be the Superintendent's responsibility. The Benchmarks given on the Site Plan will be the vertical elevation that all other elevations are set in relation to. Do not use other control points for establishing elevation unless they are set on site using conventional methods. Prior to doing any of the Work, the Contractor shall confirm that design elevations provide positive drainage and meet ADA requirements as required. The Contractor shall also confirm that grades intended to match or blend into existing are meeting the design intentions. If a discrepancy occurs, or if there are any potential concerns, the Contractor is to notify the Architect prior to any other Work being done.

SPECIAL INSPECTIONS: General Contractor shall notify the Architect 48 hours prior to operations requiring inspection by IBC Sec. 1704. Inspections are required, but not limited to, on the following:

- A. Concrete: Placing and test sampling
- B. Reinforcing Steel: Placement
- C. Welding: Structural and re-bar
- D. High-Strength Bolting: Installation
- E. Piling, Piers & Caissons: Driving & Testing
- F. Special Earthwork: Engineered Fill

GUARANTEES AND WARRANTIES: Contractor is to provide a (1) ONE YEAR guarantee/warranty on all Work under this Contract. This date corresponds to one year after the substantial completion date (OR issuance of Certificate of Final Acceptance if applicable) for each predetermined phase as needed per project requirements. Throughout the Specifications, certain work or materials will have longer warranty or guarantee periods; provide written warranties or guarantees on these items before final payment.

TEMPORARY FACILITIES: By General Contractor (unless noted otherwise)

- A. Water: Water is available on site from existing hose bibs on adjacent buildings.
- B. Temporary Power: Power is available from existing outlets on existing adjacent buildings. Make arrangements for use with owners' representative locally.
- C. Toilet: Restrooms are available in the adjacent shop building.
- D. Telephone: Contractor shall install a job telephone at his expense. Phone may be a cell phone, but either way there must be a means of contacting someone on-site during construction hours.
- E. Cold Weather Protection: Heating required before the building is enclosed shall be furnished by each Contractor or Sub-Contractor requiring same with heating units of approved types. Equipment and surroundings kept in clean and safe condition. Applies only to concrete and caulking/sealing.
- F. Temporary Stairs, Ladders, Ramps, Runways and Scaffolding: Furnish and maintain, as required by all trades. Assess others on basis of use. Such apparatus, equipment and construction to meet requirements of labor laws OSHA and other State or Local laws.
- G. Temporary Fire Protection: Contractor shall provide and maintain fire extinguishers, fire hoses and other equipment necessary for fire protection during construction.
- H. Construction Fencing & Traffic Control: Contractor shall provide chain-link panelized construction fencing minimum 6' high as required to secure construction from the Public and allow access. Provide barriers and signage on adjacent streets and parking areas outside the construction fence as required to safely control traffic.
- I. Protection of Work-In-Place: Work-in-place that is subject to injury because of operations, weather, heat, cold, wind, etc. shall be covered, boarded-up or substantially enclosed with adequate protection.
- J. Dust Control: See Section 02 41 00 - Demolition for requirements.

PROTECTION OF EXISTING GROUNDS: Provide and make use of landing pads, sheeting and other support systems and materials to prevent damage and rutting existing landscaped areas and walks and drives. Any such damage shall be fully repaired to the satisfaction of the Architect and Owner, including grades, plant materials, sprinkler systems, and walks and drives.

CLEANING: Upon completion, the Contractor shall leave building in a clean condition including, but not limited to, the following items:

- A. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waster material, litter, and other foreign substances.
- B. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- C. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, crawlspaces, and similar spaces.
- D. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- E. Leave Project clean and ready for occupancy.

PROJECT RECORD (AS-BUILT) DOCUMENTS:

The General Contractor will keep one set of drawings on the site to be used exclusively for recording ANY changes made to the original drawings by all trades. These changes will be at the time the changes are made by the trade making the change. This set of drawings will be delivered to the Architect at completion of the project and before final payment is made.

- A. Copies: Submit ONE set of marked up record documents and ONE digital copy of the scanned record documents.
- B. Preparation: Mark record documents to show the actual installation where installation varies from that shown originally. Provide information as needed to relay the extents of the variation.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
- b. Record data as soon as possible after obtaining it.
- c. Record and check the markup before enclosing concealed installations.
- C. Mark the Record Documents completely, accurately, and legibly. Use personnel proficient at recording graphic information in production of mark-ups.
- D. Mark Record Documents with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
- E. Note Addenda, Alternate, CCD, RFI, RFP, Change Order, or similar identification numbers, where applicable.
- F. Submittal of Record Documents information that is incomplete, illegible, poorly organized or information that is submitted on damaged, torn, smudged or unreadable copy will be rejected with a request to resubmit.
- G. Format: Organize in the same order as the original drawing set.

PROJECT MEETINGS:

PRE-CONSTRUCTION CONFERENCE: The Owner will schedule and conduct a pre-construction meeting at the Project Site or other convenient location. Authorized representatives of the Owner, Architect, and their consultants; the Contractor and his superintendent; major subcontractors and suppliers; and other concerned parties shall attend. Participants shall be familiar with the Project and authorized to conclude matters relating to the Work.

PRE-INSTALLATION CONFERENCES: The Contractor shall conduct pre-installation conferences at the Project Site prior to each construction activity that requires coordination with other trades. Subcontractors, manufacturer representatives and fabricators involved or affected by the particular work shall attend the meeting. Notify the Architect of scheduled meetings.

WEEKLY PROGRESS MEETINGS: The Contractor's Superintendent shall conduct weekly progress meetings with subcontractors, suppliers or other entities concerned with current progress or involved in planning, coordination, or performance of future activities.

MONTHLY PROGRESS MEETINGS: The Owner will schedule and conduct monthly progress meetings. The Owner, Contractor, and his Superintendent shall be represented at these meetings. Meeting will review and correct or approve minutes of the previous meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.

CONTRACTOR'S CONSTRUCTION SCHEDULE:

CRITICAL PATH METHOD (CPM): A CPM schedule will be submitted to the Owner for review. The schedule will be updated for current progress status with each Periodic Estimate for Partial Payment. The original baseline schedule will be maintained and will not be altered except to reflect changes in the baseline schedule authorized by Change Order. Any request for change to the Contract performance time must be based on demonstrated effect of changes in the Work on the Critical Path.

SUBSTANTIAL COMPLETION PROCEDURES:

- A. Prepare and submit a list of items to be completed and/or corrected (Contractor's Punch List). Indicate the monetary value of each item.

- B. Complete the following submittals a minimum of TEN (10) days prior to requesting a Substantial Completion walk-through:
- Certificates of Release: Obtain and submit releases from Authorities having jurisdiction permitting the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - Submit closeout submittals including project record drawings, operation and maintenance manuals, and similar record information.
 - Submit closeout submittals including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - Submit maintenance material submittals including tools, spare parts, extra materials, and similar items. Deliver to Owner.
 - Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Complete the following procedures a minimum of TEN (10) days prior to requesting a Substantial Completion walk-through:
- Advise Owner of pending insurance changeover requirements.
 - Participate with Owner in conducting inspection and walk-through with local emergency responders.
 - Terminate and remove temporary facilities, mockups, construction tools, and similar elements.
 - Complete final cleaning requirements.
 - Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. When the above items near completion, notify Owner in writing of intended schedule of substantial completion. The Owner, and Contractor will then coordinate a "walkthrough" inspection, after which a generalized statement of work yet to be completed will be issued by the Architect (Architect's Punch List).
- E. The Owner will then determine whether work is SUBSTANTIALLY COMPLETE.
- F. Upon determination that work is SUBSTANTIALLY COMPLETE, the Owner will prepare and submit to the Contractor, for written approval, the following documents:
- Certificate of Substantial Completion**, which shall:
 - Establish Date of Substantial Completion.
 - State responsibilities of Owner and Contractor.
 - Fix time within which items listed shall be completed.
 - Contractor's Affidavit of Payment of Debts and Claims**
 - Consent of Surety to Final Payment**

FINAL COMPLETION PROCEDURES:

- A. Before requesting final inspection for determining final completion, complete the following:
- Submit a final Application for Payment.
 - Submit a signed/dated copy of the Owner's Punch List.
 - Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. When the above items near completion, notify Owner in writing of intended schedule of final completion. The Owner, and Contractor will then coordinate a final "walkthrough" inspection.
- C. Upon determination that work is COMPLETE, the Architect will process the final Application for Payment.
- D. Deficiencies in the Work, except major, which are found during or subsequent to the final inspection by the Owner, will be corrected under the guarantee protection.

END OF SECTION

01 23 00 - Alternates

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Section.

ALTERNATE PRICES: Contractor shall state, in the spaces provided in the Form of Proposal, Alternate Prices for the Work described below. The responsibility of determining quantity of Alternates rests with the Contractor. Base Bid and Alternate shall include cost of all supporting elements required so that no matter what combination of Base Bid and Alternates are accepted that portion shall be a complete entity in itself. Work for all Alternates shall be in strict accordance with the Specification Sections noted and applicable to the specific Work.

ALTERNATE A-1: Provide all materials, labor and work necessary to extend the new Engineered Post Frame Structure twenty-four feet (24 FT) to the south, adding another full bay. Alternate shall include additional site work, gravel, modification of the chain link fence, one additional convenience outlet, and one additional overhead light fixture.

END OF SECTION

DIVISION 02 - EXISTING CONDITIONS

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Division.

AS-BUILT DRAWINGS: Per Section 01 00 00 - General Requirements.

SCOPE: Complete all Site Drainage and Utility Work as shown on the Drawings and as specified.

CONDITIONS AT SITE: Visit the site. Examine and note all conditions as to the character and extent of Work involved. Protect any adjacent property and improvements from damage and replace any portions damaged through this operation. Maintain all benchmarks, control monuments, and stakes, whether newly established by Surveyor or previously existing. Protect from damage and dislocation. If it is necessary to disturb existing benchmarks, re-establish in a safe place.

PERMITS & ORDINANCES: Procure and pay for all necessary permits or certificates required by local authorities having jurisdiction over the Work. Comply with all Federal, State and Local Laws. Check Supplemental Conditions and/or General Conditions to determine who is responsible for procuring the general construction permit.

COORDINATION: Cooperate and coordinate the Work with the various Sub-contractors whose work might be affected by operations.

ADJACENT PROPERTY: Restore any damage to adjacent properties, streets, and the like caused by operations of this Division to original condition without additional cost to the Owner.

TESTS: The Foundation Engineer who prepared the Soils Report (if applicable) shall perform all tests and inspections required by this Division. Relative compactions shall be determined as specified in ASTM D698. Owner will pay for passing tests; Contractor pays for failed tests and superfluous trips made at the direction of the Contractor.

EXISTING UTILITIES: Where existing utilities not shown on the Drawings are encountered: support, shore up, protect same and immediately notify Architect. Allow entrance, opportunity, and ample time for measures necessary for continuance and/or relocation of such services. Where noted on Drawings, cut and cap all street connections encountered in the excavating along curb line and mark location so they can subsequently be located and re-connected as required.

LAYOUT: Layout and Work under this Division shall be made by competent personnel experienced in surveying. If any discrepancies are found by Contractor between the Drawings and actual conditions at the site, Architect reserves right to make such minor adjustments in Work specified as necessary to accomplish the intent of the Contract Documents without increased cost to the Owner.

CLEAN-UP: Remove from the Site all rubbish, debris, etc. resulting from Work in this Division, except as otherwise specified above and per Section 01 00 00 - General Requirements.

END OF DIVISION

02 41 00 - Demolition

GENERAL REQUIREMENTS: Per DIVISION 02 – EXISTING CONDITIONS

LOCATE CALL: In addition to requesting local utilities to locate underground utilities and per MCA 69-4-501 to 502 the contractor is required by State Law to notify a One-Call location service before all underground excavation. Notification must be received at least TWO (2) working days prior to excavation. Call 1-800-424-5555.

DEMOLITION WORK: Refer to Drawings for specific Demolition Work.

ASBESTOS: No known asbestos is present on the site.

NESHAP PERMIT: This is not a project involving a building or existing structure, Not Applicable.

PROTECTIONS: Execute all demolition Work in an orderly and careful manner with due consideration for any existing structures, including any parts of the surrounding areas which are to remain. Barricade and cover as necessary to protect pedestrians, workmen and adjacent properties.

POLLUTION CONTROLS: Control as much as practical the spread of dust and dirt. Do not allow adjacent buildings or properties to become soiled by demolition operations. Observe environmental regulations. Do not allow water usage that results in freezing or flooding.

DISPOSAL: Promptly dispose of materials resulting from demolition operations. Do not allow materials to accumulate on-site. Transport materials resulting from demolition operations and legally dispose of off-site. Do not burn removed materials on-site.

EXECUTION:

- A. Keep all through lanes and drives clean and clear at all times.
- B. Conduct operations so as not to interfere with adjacent roads, streets, drives, walks, service lines and the like. Perform work in a systematic manner.
- C. Protect any electric, telephone, gas, water, or other lines servicing the adjacent structures or facilities. Contact Utility Companies, arrange and pay costs of utility disconnect/removal if needed.
- D. Per Section 31 23 00 - Excavation & Fill, bring site to natural grade with pit-run gravel or lean-clay soils placed according to “engineered fill” specifications. Top 8” (at minimum) to be lean-clay soils or road-mix.

SALVAGE MATERIALS: Certain materials shall be carefully removed, protected and turned over to Owner, or re-used as shown on Drawings. Store and protect in designated locations. Consult with the Owner before removing any mechanical or electrical equipment not specifically noted to be disposed of by the Contractor. Material not being re-used or being retained by the Owner will become the property of the Contractor and is to be disposed of properly at his expense. Salvage materials include but are not limited to the following:

- A. Chain link fencing and related.

END OF SECTION

DIVISION 03 - CONCRETE

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Division.

SCOPE: Supply/install all Concrete work as shown on the Drawings and as specified herein.

SHOP DRAWINGS: Per Section 01 00 00 - General Requirements, submit Shop Drawings showing bending and placing of all imbedded items. Drawings shall include diagrammatic elevations of all walls at a scale sufficiently large to show clearly the position and erection marks of marginal bars and their dowels and splices.

REFERENCE STANDARDS: Comply with all applicable Federal, State and Local codes, safety regulations, Portland Cement Association Standards, "Manual of Standard Practice for Detailing Reinforced Concrete Structures", American Welding Society (AWS), Vermiculite Institute Specifications, and any others referred to herein.

COORDINATION:

- A. Obtain information and instructions from other Trades and suppliers in ample time to schedule and coordinate the installation of items furnished by them to be embedded in concrete so provision for their work can be made without delaying the Project.
- B. Do any cutting and patching made necessary by failure or delay in complying with these requirements, at no cost to Owner.

TESTS AND INSPECTIONS:

- A. The Owner shall pay costs of laboratory tests/inspections directly to the Testing Agency. Owner will pay for passing tests; Contractor pays for failed tests and superfluous trips made at the direction of the Contractor.
- B. **The Contractor shall:** Take three (3) identical test cylinders as directed by the Architect, mark test cylinders and store properly before delivering to Testing Agency, and be responsible and pay for delivery of all required concrete specimens to the Testing Agency at the proper time.
- C. **Inspection of Reinforcing Steel and Concrete Placing:** Before any concrete is poured on any particular portion of Project, reinforcing steel will be checked and approved by Architect. Correct any errors or discrepancies before concrete is placed. Such checking and approval shall not relieve Contractor from his responsibility to comply with the Contract requirements.

GENERAL:

- A. Produce concrete of required consistency and strength to present appearance satisfactory to the Architect.
- B. Use only one brand of cement unless otherwise authorized by Architect.
- C. Place all pipe sleeves, anchors, bolts, angle frames, inserts, supports, ties and other materials in connection with concrete construction and secure in position before concrete is placed.
- D. Store materials delivered to the job and protect from foreign matter and exposure to any element which would reduce the properties of the material.
- E. Pour no concrete unless air temperature is at least 40 deg F & rising. When temperature cannot be expected to remain above 40 deg F for at least (3) days, protect from freezing by covering with insulating materials, providing heating devices or other suitable means subject to approval by Architect. Temperature of concrete at time of pouring shall be between 50 deg F to 75 deg F.

PATCHING AND CLEANING:

- A. After forms are removed, remove projecting fins, bolts, form ties, nails, etc. not necessary for the Work or cut back one inch from the surface. Joint marks and fins in exposed Work shall be smoothed off and cleaned.
- B. Repair defects in concrete work. Chip voids and stone pockets to a depth of one inch or more as required to remove all loose material. Voids, surface irregularities, chipped areas, etc., shall be filled by patching or rubbing, as directed by Architect. Repaired surfaces shall duplicate appearance of unpatched work.
- C. Clean exposed concrete surfaces and adjoining work stained by leakage of concrete.

CLEAN-UP: In addition to the requirements of Section 01 00 00 - General Requirements, clean-up all concrete and cement work on completion of this project of the Work, except protective coatings or building papers shall remain until floors have completely cured or until interior partitions are to be installed.

END OF DIVISION

03 11 00 - Concrete Forming

GENERAL REQUIREMENTS: Per DIVISION 03 – CONCRETE

GENERAL:

- A. Provide complete forms of such strength and construction as to prevent any spread, shifting, or settling when concrete is deposited, and tight enough to avoid any leakage or washing out of cement mortar.
- B. Remove all dirt, chips, sawdust, rubbish, water, etc., from forms by water hosing and air pressure before any concrete is deposited. Leave no wooden ties or blocking in concrete except where indicated for attachment of other work. Leave lowest board of forms along walls loose or provide clean-out pockets. At any columns and pilasters, provide holes in forms at bottom for cleaning purposes. Leave openings and holes open until just before concrete is poured.
- C. Provide openings for the introduction of vibrators wherever necessary. Where required on account of excessive drop, or required by Architect, provide elephant trunks or side openings to receive concrete.
- D. Architect will cooperate with Contractor in the matter of removing forms and shoring as early as possible. The length of time forms must remain in place depends on the rate of time required for concrete to obtain a proper strength and on construction loads that will be placed on concrete.
- E. On removal of forms, all bolts, wires for anchoring, etc., shall be either removed, cut off to lengths as directed or left in place for anchorage of other work as specified.
- F. Forms to be reused shall be in good condition and thoroughly cleaned before being reused.
- G. Provide 3/4 inch chamfer at any wall, column and vertical corners unless otherwise shown.

MATERIALS:

Slabs, Walls and Exposed Concrete: Forms for flat exposed surfaces shall be 5-ply Exterior B-B (Concrete Form) panels. See requirements for thickness hereinafter. Panels with raised or separate face veneers shall not be used for exposed concrete.

Other Forms: Except where otherwise specified, shown or noted, forms for other concrete surfaces shall be constructed of Douglas Fir, smooth surfaced on the contact side, culled for loose knots and/or undesirable defects. Form Ties and Spreaders shall be metal, flat bar or cone nut type. No wood spreaders will be permitted. “Nominal” length ties NOT ACCEPTED – 8” walls are to be full 8” thick.

Round Tubular Concrete Forms: Equal to **SONOCO Sonotube**, paperboard, spirally wound and laminated with interior plastic coating moisture barrier, one-piece, one-time use. Place and brace as recommended by manufacturer depending on size and conditions. Erect forms plumb; do not use forms that are out of round, deformed or damaged. Protect from water damage prior to use. Place concrete per 03 30 00 - Cast-in-Place Concrete; do not vibrate or pound on exterior of forms, do not touch interior of forms with vibrator or tamping rods. Remove forms after concrete is properly set.

Optional Forming Systems: Pre-engineered steel, aluminum or composite form systems in good condition may be used in lieu of forming specified above. Form Sealer shall be **PROTEX Procoat** or equal.

Rough Hardware: Nails, bolts, screws, anchors, etc., as shown or needed shall be furnished and set.

END OF SECTION

03 20 00 - Concrete Reinforcing

GENERAL REQUIREMENTS: Per DIVISION 03 – CONCRETE

REINFORCEMENT:

- A. Reinforcing Bars shall be deformed bars conforming to ASTM A615 Grade 40. Use ASTM Grade 60 for #4 and larger bars.
- B. Welded wire fabric shall conform to requirements of ASTM A185 using bright steel wire meeting ASTM A82. Gauges and dimensions shall be as noted on the Drawings.
- C. All steel for reinforcement shall be new, un-rusted stock, free from mill scale and delivered without rust other than may have accumulated in prompt transportation to the Work. Chairs shall be standard Class B chairs as specified in the “Manual of Standard Practice”, the Concrete Reinforcing Steel Institute and Western Concrete Reinforcing Steel Institute. Tie wire shall be No. 16 American Wire Gauge or heavier, black annealed.
- D. Steel Reinforcement Shop Drawings: Detail fabrication, bending & placement.
- E. Fabricate steel reinforcement according to ***CRSI’s Manual of Standard Practice***.

Reinforcing Steel: Supports or spacers for bars in walls shall be such that exterior face of wall will not be marred when forms are stripped and final finish has been completed. Dowels from footings to walls shall be same size and spacing as wall reinforcement, unless otherwise shown, and shall project thirty (30) diameters into wall and thirty (30) diameters into footing unless detailed or noted otherwise.

PLACING REINFORCING STEEL:

- A. Reinforcement shall be accurately placed and securely tied at intersections with 16 gauge black annealed wire. It shall be maintained in proper position by chairs, bar supports, or other approved devices.
- B. Bars shall lap 30 diameters and splices, except as other indicated. Splices in adjoining horizontal bars shall be staggered at least 6 ft. Where this is not feasible, submit suggestions for the Architect's consideration. Horizontal bars shall be hooked around corners not less than 24 diameters, with a minimum of 12” as per typical details.
- C. Concrete protection of reinforcing shall be not less than the following:
 - 1. 3” where concrete is poured against ground.
 - 2. 2” where concrete is poured against forms but may be in contact with ground.
 - 3. 1-1/2” minimum in exterior face of exterior walls (exposed to weather but not in contact with ground).
 - 4. 3/4” minimum in interior walls and interior face of exterior walls.
 - 5. 1-1/2” in beams, girders and columns.

END OF SECTION

03 30 00 - Cast-in-Place Concrete

GENERAL REQUIREMENTS: Per DIVISION 03 – CONCRETE

DESIGNING AND PROPORTIONING:

- A. The concrete shall: have the lowest slump compatible with placement requirements and workability. Work readily into corners and angles of forms and reinforcement without excessive vibration and without permitting materials to segregate or free water to collect on surface.
- B. Provide a ticket for every load of concrete. Contractor is to maintain a file on all load tickets and, upon request, provide a copy of all tickets to the Architect.

MIXING:

- A. Use ready-mixed concrete complying with ASTM C94 and with the requirements of Contract Documents. Mix for a period of not less than ten (10) minutes; at least three (3) minutes of mixing period shall be immediately prior to discharging of the job.
- B. Introduction of additional water after initial mixing not permitted unless water to cement ratio remains below 0.50.
- C. Temperature of concrete at time of placing shall not exceed 75 degrees F.

WEATHER REQUIREMENTS: Do not mix or place when atmospheric temperature is below 40 degrees F. or when conditions indicate temperature will fall below 40 degrees F. within 72 hours. Concrete deposited shall have temperature not less than 60 degrees F. Reinforcement, forms and ground which concrete will contact shall be completely free of frost. Keep concrete and formwork at a temperature not less than 50 degrees F for not less than 72 hours after pouring. During below freezing temperatures allow concrete to gradually cool for 48 hours after the 72 hour period.

CONVEYING AND PLACING:

- A. Notify Architect at least 24 hours before placing any concrete.
- B. Carry on concreting once started, as a continuous operation until the section of approved size and shape is completed. Make pour cut-off's of approved detail and location.
- C. Handle concrete as rapidly as practicable from mixer to place of deposit by methods which prevent separation or loss of ingredients. Deposit as nearly as practicable in final position to avoid re-handling or flowing. Do not drop concrete freely where reinforcing bars will cause segregation, nor drop freely more than six feet. Deposit to maintain a plastic surface approximately horizontal. In walls, deposit in horizontal layers not over eighteen inches deep. In pouring columns, walls, or thin sections of considerable heights, use openings in forms, elephant trunks, tremies, or other approved devices which permit concrete to be placed without segregation or accumulation of hardened concrete on forms or metal reinforcement above the level of the concrete. Install so concrete will be dropped vertically. At least two hours shall elapse after depositing concrete in walls or columns before depositing in heads over openings, supported beams, girders, or slabs.
- D. Concrete that has partially hardened shall not be deposited in the Work.
- E. Compact thoroughly using approved mechanical vibrators. Provide pour holes in forms to the extent necessary to insure filling or to allow necessary inspection. When starting a new pour or where conditions make puddling difficult, or where reinforcing is congested, place modified concrete with the same sand-cement proportions as elsewhere, but with not more than one-half the normal amount of course aggregate per yard. Use modified concrete to depth of not less than three inches when starting a new pour.
- F. Use mechanical vibrator at each point of dump, and a stand-by vibrator in good working order, but not in use, shall be kept on the job until all concrete is placed.

MATERIALS:

Portland Cement: Type II, Type III or Type V as specified shall conform to “Standard Specifications for Portland Cement” (ASTM C150). One brand of cement shall be used throughout the Work for structural purposes. Cement shall have been used for at least two years with the proposed aggregate without detrimental reaction. Contractor is required to obtain from the cement manufacturer and to furnish the Architect with satisfactory evidence of the kind and quality of all cement to be supplied.

Aggregates: Shall conform to “Standard Specifications for Concrete Aggregates” (ASTM C33), except as modified herein. “Gap-grading” of aggregates strictly prohibited. Provide even grading of all sizes of aggregate. Use as large of aggregate available to the particular plant. Use a minimum of 56-60% aggregate in the mix design.

Water: Potable.

Air Entraining: Air entraining - ASTM C260. Equal to **BASF MasterAir AE 200**. Use in all exterior concrete (and only as approved by Architect). Note: For concrete in transit more than 30 minutes consult Architect about increased air entertainment. ***Do not add air to concrete used for interior slabs.***

- 3% (+/- 1%) air entrainment allowable for Footings and Foundations.
- 6% (+/- 1%) air entrainment allowable for Exterior Flatwork.

Form Release: Equal to **SPECHEM SPECSTRIP** to provide required separation and leave surface area with substantially the same appearance of untreated concrete.

Repairs: Equal to **SPECHEM SpecPatch 30**. Used for patching damaged concrete.

STRENGTHS, SLUMPS, CEMENT CONTENT:

- | | | | |
|------------------------|-----------------|------------|----------------|
| A. Use | 28 Day Strength | Max. Slump | Min. Cement/CY |
| Footings & Foundations | 3,000 psi | 4" | 5.0 Sack |
- B. Water Content: The materials shall be mixed with a minimum amount of water to produce a concrete of such consistency as will allow it to flow sluggishly into forms, around reinforcing steel and completely fill forms with the aid of thorough vibrating and tamping. The water/cement ratio shall not exceed 0.50. Slumps shall not, under any conditions, exceed those given except where water reducer is used, in which case slumps may be double that shown.
- C. Curing: Cure all flatwork with 2-6 mil sheet poly, misting the slab to get the poly to adhere to the surface. Leave sheet in place seven days. Water cure with burlap as specified above. Use of specific curing compounds by approval only.

Exterior Concrete Curing: Use the following products per application:

- A. General Sealant: Equal to **DAYTON SUPERIOR Anti Spall J33** linseed oil base (2) coats: Two coats applied per manufacturer's recommendations; apply to exposed concrete.

END OF SECTION

DIVISION 06 - WOODS, PLASTICS, & COMPOSITES

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Division.

SCOPE: Supply and install complete wood and plastics work as shown on Drawings and as specified.

SHOP DRAWINGS: Per Section 01 00 00 - General Requirements. Submit shop drawings of all fabricated work at full size or large-scale showing sizes, materials, grain run, methods of construction, connection to adjacent members and installation. Indicate all backing members for installation and all hardware.

GUARANTEE: Per Section 01 00 00 - General Requirements.

MEASUREMENTS: Verify all dimensions shown on Drawings by taking field measurements; proper fit and attachment of all parts is required.

COORDINATION: Coordinate with all other trades as required to complete Work to satisfaction of Architect.

DELIVERY AND STORAGE: Deliver and store all materials under protective cover and store within dry enclosed area.

STANDARDS: Following standards apply to Work of the Division except where more stringent requirements are specified herein:

- A. Architectural Woodwork Institute "Quality Standards"
- B. Western Wood Products Association Manual
- C. American Wood Preservers Association Specifications
- D. National Forest Products Association
- E. West Coast Lumber Inspection Bureau
- F. Douglas Fir Plywood Association
- G. California Redwood Association

WOOD BACKING: Provide all wood backing, furring, stripping or blocking indicated or required for installation and attachment of work of all other trades. Cut and frame all openings required by other trades. Structural members shall not be cut, notched, or drilled except as shown or noted on Drawings.

TERMITE CONTROL AND DECAY PREVENTION: Remove all wood, including form lumber, scrap lumber, shavings and sawdust in contact with ground. Leave no wood buried in any fill or backfill.

CLEAN-UP: Per Section 01 00 00 - General Requirements.

END OF DIVISION

06 10 00 - Rough Carpentry

GENERAL REQUIREMENTS: Per DIVISION 06 - WOODS, PLASTICS, & COMPOSITES

CONNECTIONS:

- A. Nails: Bright common wire nails, galvanized for exterior work. Sub-drill where necessary to avoid splitting.
- B. Bolts: Drill bolt holes 1/32" larger than bolt diameter. Use square plate or malleable iron washers under heads and nuts where they bear against wood. Re-tighten bolts immediately prior to concealing with finish work. Re-tighten exposed bolts immediately prior to final inspection.
- C. Lag Screws and Screws: Sub-drill, use square plate or malleable iron washer under lag screw heads when they bear on wood.
- D. Fabricated Connections:
 - a. Sheet metal galvanized of size and type shown on Drawings.
 - b. Structural Steel: ASTM A36. Welding by qualified welders in conformance with AWS.
 - c. A304 or A316 Stainless Steel or G185 Galvanized coated connectors and fasteners rated for contact with treated lumber. Do not mix stainless steel fasteners with galvanized plate connections.

LUMBER SPECIES AND MATERIALS:

Framing Lumber: Hem-Fir or SPF graded as per Standard Grading and Dressing Rules of West Coast Lumber Inspection Bureau or Western Wood Products Association and grade marked by either. All sides surfaced. Grades as follows unless noted otherwise on plans:

1x boards	"Appearance"	
	2x studs, sill plates, etc.	Hem Fir #2 & Better
Other framing lumber, 2"-4" thick	Hem Fir #2 & Better	
Misc. blocking, bridging, etc.	"Utility"	
Treated lumber, sills & plates	.25 RET treated 2x plates	

Treated Lumber, Sills, Plates, Wood Foundations:

Sill plates in contact with concrete must be manufactured from pressure treated lumber.

For Above Ground use/exposure the following minimum retentions are to be used:

0.25 pcf for ACQ, CCA-C & MCQ

0.20 pcf for CBA-A

0.10 pcf for CA-B

For Ground Contact use/exposure the following minimum retentions are to be used:

0.40 pcf for ACQ, CCA-C & MCQ

0.41 pcf for CBA-A

0.21 pcf for CA-B

A304 or A316 Stainless steel, G-185 galvanized, or ceramic-coated fasteners must be used with ACQ treated sill plates. If borate treated sill plates are used, special fasteners are not required.

END CUT TREATMENT: For treated wood that has been cut, seal with *Wolman Woodlife Coppercoat* by **RUST-OLEUM**. Also, use to seal un-treated framing or sheathing in contact with concrete at exterior walls and footings.

Pre-engineered Trusses: Roof truss and floor truss systems pre-engineered to meet all loads indicated on drawings and manufactured in strict accordance with ***Truss Plate Institute*** guidelines. Loads indicated are all applied loads. Roof trusses to use 30 psf minimum live load per MT Rule 24.301.154 (5). Provide Montana engineer stamped drawings as part of final submittal. Submit shop drawings for approval before manufacture and include all necessary bridging and bracing instructions as well as material required to complete instructions. ***Important: Hem-Fir, Doug-Fir or Southern Yellow Pine are ONLY species accepted for trusses.***

Truss Identification: Permanently brand or otherwise identify every truss with: Name and address of truss manufacturer, design load, and design spacing. In addition, mark each truss with a code corresponding to codes used in shop drawings.

LSLs: Equal to **WEYERHAEUSER Timberstrand Laminated Strand Lumber** headers & beams in sizes indicated on Drawings. LSLs must have minimum 1.3E.

LVLs: Equal to **WEYERHAEUSER Microllam Laminated Veneer Lumber** headers & beams in sizes indicated on Drawings. LVLs must have minimum 1.9E.

PSLs: Equal to **WEYERHAEUSER Parallam Parallel Strand Lumber** headers & beams in sizes indicated on Drawings. PSLs must have minimum 1.8E.

FRAMING:

General: Install all wood framing making proper provisions for work of other trades. Do all cutting of wood required to accommodate plumbing, heating and ventilating, electrical and other trades. Fit neatly around all exposed items such as outlet boxes, conduit, pipes and ducts.

Rough Framing: Fit closely and set accurately to required lines and levels and secure rigidly in place. Set horizontal and inclined members with crown edge up. Do not cut, notch or bore structural members without specific approval. Reinforce cut members, as directed. Bolt, nail and spike thoroughly with not less than sizes and quantities indicated. Structural members shall provide full contact at all bearing surfaces.

END OF SECTION

07 40 00 - Roofing & Siding Panels

GENERAL REQUIREMENTS: Per DIVISION 07 – THERMAL & MOISTURE PROTECTION

SCOPE OF WORK: Furnish and install the retrofit metal wall system with all related accessories required for a complete and weathertight system.

WARRANTY: Provide written TWO (2) year guarantee on workmanship, including 24 Hour response to written notice by Owner of leak in wall system. Provide manufacturer's written 20 Year minimum warranty on metal finish.

APPLICATORS: Have all work done by applicators approved by manufacturer of materials and a minimum of FIVE (5) years of experience in single ply roof installation.

PRE-APPLICATION REQUIREMENTS:

- A. Review drawings and specifications with Manufacturer to ensure that the materials are properly used.
- B. Submit a report including any revised details to Architect. Any revised details, approved by Architect, will be incorporated in the project at no additional cost to the Owner.
- C. Notify Architect at least 48 hours prior to starting Work.
- D. Contractor is responsible for "total system" including UL rating, all sheet metal flashing work, and compliance with edge standards.
- E. The Roofing Contractor will purchase and maintain a copy of ***The NRCA Roofing and Waterproofing Manual, Latest Edition*** and comply with their recommended details as a minimum unless the Roofing Manufacturer's details have higher requirements.

MANUFACTURER'S SPECIFICATIONS: Manufacturer's specifications, drawings, component information and material properties are herein considered a part of this document and it is the responsibility of the roofing contractor to obtain the latest edition and comply with it.

MATERIALS:

Wall Panels: 29 Ga. ***Kynar 500*** finished steel panels equal to **BRIDGER STEEL *Tuff Rib* or *Purlin Bearing Rib*** or **METAL SALES *Classic Rib* or *Delta Rib***. Color as selected by Owner from standard; use Bridger Steel "Hickory" as a basis. Exposed fasteners with heads colored to match panel.

Roof System: 26 Ga. ***Kynar 500*** finished steel panels equal to **BRIDGER STEEL *Tuff Rib* or *Purlin Bearing Rib*** or **METAL SALES *Classic Rib* or *Delta Rib***. Color as selected by Owner from standard; use Bridger Steel Medium Brown as a basis. Exposed fasteners with heads colored to match panel. Use pan-head Type "W" screws as recommended by manufacturer.

Fasteners: Use corrosion resistant Type "W" screws as recommended for condition unless noted otherwise on the drawings. For other connections, corrosion resistant, as recommended and approved by manufacturer for specific decks and conditions shown on drawings. Indicate fasteners being used on shop drawings.

Closures, Trim, & Flashings: Same gauge and finish as exterior panels. Use factory formed shapes wherever possible and custom shapes as required by each specific condition. Where indicated, provide closed cell foam closures along with factory formed metal closure trims to protect the foam.

Foam Closures: ***EMSEAL AST Hi-Acrylic*** metal building foam sealant sized for panel corrugations and where indicated on drawings.

Caulking and Sealants: See 07 90 00 - Joint Protection.

Snow Guards: Equal to ***SNOBLOX Snow Breaker 3M*** clear polycarbonate snow block with integral 3M VHB adhesive pads. Prep and install per manufacturer's instructions. See plans for quantity/location of snow guards and include as part of the Roof System.

APPLICATION: Install in strict conformance with Manufacturer's specifications, details and instructions. Take special care in installation to avoid marks, discoloration's, drippings, etc. that might affect appearance. Remove such marks before final payment.

- A. Wall Panel System: Install wall system over wall girts in strict accordance with manufacturer recommendations, including all manufacturer standard flashing, accessories and trim required for a water-tight assembly. Drawings may not include all conditions, in which case use best practices for detailing.
- B. Roof Panel System: Install roof system in strict accordance with manufacturer recommendations, including all manufacturer standard flashing, accessories and trim required for a water-tight assembly. Drawings may not include all conditions, in which case use best practices for detailing.
- C. Fascia System: Install fascia system over specified underlayment in strict accordance with manufacturer recommendations, including all manufacturer standard flashing, accessories and trim required for a water-tight assembly. Drawings may not include all conditions, in which case use best practices for detailing.

APPROVED MANUFACTURERS: Equal to **BRIDGER STEEL, FIRESTONE, METAL SALES.**

END OF SECTION

07 60 00 - Flashing & Sheet Metal

GENERAL REQUIREMENTS: Per DIVISION 07 – THERMAL & MOISTURE PROTECTION

GUARANTEE: Per Section 01 00 00 - General Requirements, furnish a written guarantee that all sheet metal work is unconditionally guaranteed to be watertight and free of defects for a period of TWO (2) years, or for the same period as the roof guarantee, whichever is greater.

WORK INCLUDED: Provide flashing and sheet metal not specifically described in other sections but required to prevent penetration of water through the exterior shell of the building and as indicated on the Drawings, as specified herein, and as needed for a complete and proper installation.

QUALITY ASSURANCE: Use adequate numbers of skilled workmen with at least THREE (3) years of experience in the necessary crafts and who are completely familiar with the methods needed for proper performance of the Work of this Section. In addition to complying with pertinent codes and regulations, comply with recommendations contained in current edition of “Architectural Sheet Metal Manual” published by the Sheet Metal and Air-conditioning Contractors Association (SMACNA).

MATERIALS:

Pre-finished metal flashing: Form from 24 ga., 20 year, pre-finished aluminized sheet steel equal to **METAL SALES PVDF** fluorocarbon (*Kynar 500/Hylar 5000*) finish. Use concealed “S” clips to join fascia lengths.

Tape Sealant: Mastic for side laps, end laps and flashing to be butyl rubber, pressure sensitive tape mastic. The sealer will be non-asphaltic, non-shrinking, non-drying and non-toxic; and shall have superior adhesion to metals, plastics and painted surfaces at all temperatures.

EXECUTION:

General: Flashings and counter-flashings shall be installed at the junction of roofs with vertical surfaces and at all points as shown or necessary to make the building watertight. Counterflashing will be installed as roofing work is done. Counterflashing shall extend down to the intersection of roofing with wall and shall be lapped well at joints and around corners.

Fabrication: Fabricate sheet metal flashing to shapes and sizes detailed, allowing sufficient material for up-standing leg. Make surfaces free of waves and buckles, with lines, arises, and angles sharp and true. Form in strict accordance with Drawings and notes. No raw, exposed edges permitted, turn exposed edges back 1/2”.

Joints: Join parts with rivets or sheet metal screws where necessary for strength and stiffness. Provide suitable watertight expansion joints for runs of more than 40’, except where closer spacing is indicated on drawings.

Nailing: Whenever possible, secure metal by means of concealed clips or cleats, without nailing through exterior metal. In general space nails, rivets, and screws not more than 8" apart and, where exposed to the weather use rubber washers.

Tests: Upon request of the Architect, demonstrate by hose or standing water that the flashing and sheet metal are completely watertight.

END OF SECTION

07 90 00 - Joint Protection

GENERAL REQUIREMENTS: Per DIVISION 07 – THERMAL & MOISTURE PROTECTION

GUARANTEE: Per Section 01 00 00 - General Requirements, Work guaranteed for a period of FIVE years.

APPLICATION: Apply materials in strict accordance with manufacturer's printed directions, observe manufacturer's requirements regarding temperature control, usability of materials and protection of adjacent surfaces. Clean surfaces to receive sealant with solvents and prime as recommended by sealant manufacturer. Make sealing surface slightly concave, free of wrinkles and skips, uniformly smooth and with perfect adhesion along both sides of joint. Surface is to be shaped with the aid of a formed specialty tool such as **DAP 18570 Dap Cap Caulk Finishing Tool**, or **DAP 09125 PRO Caulk Tool Kit**. Protect adjacent surfaces from excess material by masking parallel to the joint both sides; leave joints in a clean, neat condition. Defective joints shall be removed, cleaned and replaced at no additional cost to Owner at any time during the five-year warranty period.

MATERIALS:

Sealant: **DOW CORNING 790 Building Sealant** or **G.E. SCS2000 SilPruf Sealant**. Primer as required for specific surfaces. Color as selected by Architect. Use on interior/exterior non-porous joints involving metal, tile or glass requiring a cleanable waterproof joint.

Butyl Sealant: **TREMCO General Purpose Butyl Sealant**. ASTM C1311, butyl or polyisobutylene, single component, nondrying, non-skinning, non-curing. Use for sealing gutters, downspouts, and other metal flashings and trims on roof.

APPLICATION:

- A. Apply only to clean and dry surfaces, using a primers and cleaning agents as recommended by the manufacturer for the material being sealed.
- B. All caulked joints are to have a smooth tooled “concave” surface (as described above). Irregular, flat or convex joints will be rejected.
- C. All joints greater than 3/8” wide will be backed with a round poly rod to form a double concave shape sealant joint.

END OF SECTION

DIVISION 09 - FINISHES

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Division.

SCOPE: Supply and install all Finish Work as shown on Drawings and as specified herein.

MEASUREMENTS: Verify all dimensions shown on Drawings by taking field measurements; proper fit and fastening of all components is required.

GUARANTEE: Per Section 01 00 00 - General Requirements.

COORDINATION: In all Work under this Division, coordinate with all other Trades whose work connects with, is affected or concealed by Finish Work. Before proceeding, make certain all required inspections have been made.

INSPECTION: Inspect surfaces to receive finishes before starting Work and do not start until surfaces are acceptable. Starting Work under this Division implies acceptance of surfaces.

DELIVERY AND STORAGE: Deliver all manufactured materials in original packages bearing manufacturer's name and brand. Use only one brand of each material throughout job. Store materials in a dry place.

STANDARDS: Comply with all applicable requirements of the following codes and references, latest edition, except where more stringent requirements are called for herein or by local codes:

- A. U.S.G. Red Book of Lathing & Plastering.
- B. U.S.G. Drywall Construction Handbook.
- C. The Council of America - Tile Handbook.
- D. National Terrazzo and Mosaic Association - Terrazzo Specifications and Technical Data.
- E. Acoustical Materials Association - Architectural Acoustical Materials.
- F. Painting and Decorating Contractors of America Manual.
- G. Gypsum Association Fire Resistance Design Manual, latest edition.

INSTALLER: Perform all Work herein by experienced applicators or installers with a minimum of FIVE (5) years of experience in the trade.

CLEAN-UP: Per Section 01 00 00 - General Requirements, remove all excess material, equipment and debris; dispose of away from premises. Leave Work in clean condition.

END OF DIVISION

09 90 00 - Painting & Coating

GENERAL REQUIREMENTS: Per DIVISION 09 – FINISHES

SAMPLES: Per Section 01 00 00 - General Requirements, submit samples of all types of finishes specified herein. Before Work is begun, Architect will furnish Contractor a color schedule of colors selected from manufacturer's stock colors.

SURFACE PREPARATION:

- A. Protect and mask items not to be painted or remove prior to painting. If required to be removed, reposition after painting.
- B. Make any exposed miscellaneous metal items, such as steel supports, anchors, bucks, hollow metal frames and the like clean, free of rust, dust, grease and dirt.
- C. Clean any visible portions of throats of galvanized steel ductwork with solvent, wipe dry with clean rags and paint flat black.
- D. Wash any unprimed factory sealed galvanized metal with a solution of **GALVA-PREP SG** and **3M Scotch-Brite** pads; non-sealed galvanized metal may be solvent wiped, followed by an acid etch and water rinse.
- E. Make any wood surfaces to be painted or stained clean, smooth, dry, and fully sanded. Knots and pitch pockets under paint finish shall be sealed with shellac. Fill joints, cracks, nail holes, disfigurations, etc. with plastic wood after priming; then sand smooth.
- F. Clean and etch all concrete, masonry or plaster surfaces with a phosphoric acid solution reduced with water to eliminate efflorescence. Seal any similar surfaces to be painted and fill to smooth, even surfaces. Remove grease or oil with benzene.
- G. Clean thoroughly any wallboard surfaces to be painted. Spackle any nail holes after primer has dried. Sand smooth all rough surfaces.
- H. Caulk corners, gaps, and other narrow joints where materials meet to leave neat and smooth closed finish. Use water-base latex caulk on interior painted cosmetic joints.

APPLICATION:

- A. Do no exterior painting below 40 degrees F or at any temperatures within 5 degrees F of the dew point.
- B. Paint all exposed surfaces of every member; paint anything inaccessible after installation before installation, if required to be painted.
- C. Paint no items fitted with finish hardware until hardware has been temporarily removed.
- D. Sand carefully between coats all finishes on smooth surfaces for good adhesion of subsequent coats.
- E. Where coverage is incomplete or not uniform, provide an additional coat at no extra expense to Owner.
- F. Each succeeding pigmented coat shall be distinguishably lighter than the previous coat.
- G. Apply all coatings without reduction except as specifically required by label directions or required by this Specification.
- H. Apply with brush, roller or spray and back-roll. Spray is allowed on metal surfaces, but adjacent areas must be protected from overspray.
- I. Apply paint to nearest edge or corner to cover full planes of walls, ceilings, or other areas unless noted or directed otherwise.

MISCELLANEOUS PAINT ITEMS: Include painting of the following items, unless specifically noted pre-finished: Red iron exposed exterior; Exterior PVC – plumbing vents & exposed pipes and plastic conduits. Paint is to match adjacent surfaces.

MATERIALS: Provide commercial quality painting systems with specifications meeting or exceeding those scheduled below under Painting Systems.

COMPLETION AND CLEANING: On completion of Work, carefully clean all glass, hardware, etc., and remove all misplaced paint and stain spots or spills and leave Work in a condition acceptable to Architect.

PAINTING SYSTEMS: It is the intent of this Specification to establish procedure, quality, and number of coats; the Architect will determine the exact finish desired. Do not start priming or painting without having notified the Architect. All surfaces specified herein to receive 3 coats (primer + 2 finish) will receive 3 coats; there will be no exceptions. Tinting of primer is not allowed. First finish coat tinted a shade off of second coat. Equal to **SHERWIN WILLIAMS** - products below are shown for reference to establish quality levels. Apply the following finishes to the areas designated,

TYPE 2 (ferrous metals, hollow metal doors, frames, etc.)

First Coat: **B50NZ0006 Kem Kronik Universal Metal Primer**

Second Coat: **B54W00151 Pro Industrial Urethane Alkyd Enamel** (Semi-Gloss)

Third Coat: **B54W00151 Pro Industrial Urethane Alkyd Enamel** (Gloss)

OR

First Coat - **B66A01320 Pro-Cryl Universal Primer** (Low Sheen)

Second Coat - **B66W01251 Pro Industrial DTM Acrylic** (Eg-Shel)

Third Coat - **B66W01151 Pro Industrial DTM Acrylic** (Semi-Gloss)

END OF SECTION

DIVISION 13 - SPECIAL CONSTRUCTION

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed apply to this Division.

SCOPE: Supply and install all special construction as shown on the Drawings and specified herein.

SHOP DRAWINGS: Submit per Section 01 00 00 - General Requirements, showing general arrangement, description, layout and design.

GUARANTEE: Per Section 01 00 00 - General Requirements, one year minimum.

MEASUREMENTS: Verify all dimensions shown on Drawings by taking field measurements; proper fit and attachment of all components is required.

COORDINATION: Obtain information and instructions from other Trades and suppliers in ample time to schedule and coordinate with all other trades whose Work relates to special construction installation to insure proper execution. Do any cutting, patching or re-building made necessary by failure or delay in complying with these requirements at no cost to the Owner.

DELIVERY and STORAGE: Deliver and store materials in dry, protected areas keeping free from corrosion or other damage. Replace any damaged materials at no cost to Owner.

INSTALLATION: Procure all required permits and perform all operations in strict conformance with all local codes and regulations.

Install all Work plumb, true and as indicated on the Drawings. Be responsible for all anchorage requirements and provide galvanized anchors, plates, angles, fastenings and any other supporting items or members necessary to fully support the Work without damaging or straining surfaces to which Work is fastened. Any surfaces weakened or otherwise damaged by Work of this Section shall be fully repaired or replaced at no cost to the Owner.

CLEAN-UP: Per Section 01 00 00 - General Requirements.

END OF DIVISION

13 34 00 - Engineered Post Frame Structures

GENERAL REQUIREMENTS: Per DIVISION 13 – SPECIAL CONSTRUCTION

SCOPE OF WORK: Furnish and install a complete Pre-engineered Post Frame building system with all related work and materials required for a complete and weathertight building.

SAMPLES: Per Section 01 00 00 - General Requirements, submit samples of all types of materials and finishes specified herein. Contractor to furnish physical samples for color selection by Owner from manufacturer's stock colors.

MANUFACTURER'S SPECIFICATIONS: Manufacturer's specifications, drawings, component information and material properties are herein considered a part of this document and it is the responsibility of the contractor to obtain the latest edition and comply with it.

ENGINEERED POST FRAME STRUCTURES:

- A. Engineered wood-framed structures consisting of the following components:
 - a. Factory-engineered foundations and/or footings.
 - b. Factory-engineered wall columns.
 - c. Factory-engineered roof trusses.
 - d. Factory-engineered metal roof and/or wall panels.
 - e. Prefinished metal trim, ridge vents, and soffits wherever applicable.
- B. Reference Standards:
 - a. American Wood Preservers Association (AWPA).
 - b. National Design Specifications for Wood Construction, current edition.
 - c. Northeastern Lumber Manufacturer's Association, Inc. (NELMA).
 - d. Southern Pine Inspection Bureau (SPIB): Southern Pine.
 - e. West Coast Lumber Inspection Bureau (WCLIB): Douglas Fir.
 - f. Western Wood Products Association (WWPA): Douglas Fir and Ponderosa Pine.
 - g. MSR Lumber Producers Council (MSR) for machine stress rated lumber.
 - h. National Design Specifications for Wood Construction.
 - i. National Design Standard for Metal Plate Connected Wood Truss Construction (TPI).

SUBMITTALS: The Contractor shall submit to the Architect, for approval Engineer-stamped Shop Drawings, Product Data, and Samples as may be required for the construction of any part of the Work. Any Work that is done, or material ordered prior to the approval of such information, shall be at the Contractor's risk. Provide physical samples whenever a color or finish selection is required and as specified in associated Sections.

- A. Product Data: For each type of process and factory-engineered product. Indicate component materials, dimensions, profiles, and construction and installation details.
 - a. Include information for specialty accessory products specified for this Project as applicable.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - a. Sizes, stress grades, and species of lumber.
 - b. Anchor-bolt layout.
 - c. Structural Framing Drawings: Show complete fabrication of primary and secondary framing. Include provisions for openings and the following information:
 - i. Slope or depth, span, and spacing of truss.
 - ii. Heel bearing height.

- iii. Design loading to include:
 - 1. Top chord live load.
 - 2. Top chord dead load.
 - 3. Bottom chord dead load.
 - 4. Concentrated loads and their points.
 - iv. Plate type, thickness of gauge, and size.
 - v. Lumber size, species and grade for each member.
 - d. Metal Roof and/or Wall Panel Layout Drawings: Show layouts of metal panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and special details. Indicate components for all roof and/or wall mounted items.
 - e. Submit Shop Drawings that have been engineered and certified by professional engineer licensed in the State in which Project is located. Include seal and signature of professional engineer on Shop Drawings.
- C. Design Data: Truss engineering calculations for loading and stresses, bearing seal and signature of professional engineer licensed in the State in which Project is located. Include the following calculations:
 - a. Minimum design shall meet design standards of latest edition of International Building Code unless other, more stringent requirements are in force in Project location.
 - b. Bending moments and axial forces for each member.
 - c. Basic plate design values.
 - d. Design analysis for each joint indicating that proper plates have been used.
 - e. Provide design calculations for exterior walls, canopies, soffit systems, and lateral bracing walls. Design wind loads and lateral bracing loads are indicated on structural Drawings.
 - f. Submit design calculations that have been engineered and certified by professional engineer licensed in the State in which Project is located. Include seal and signature of professional engineer on calculations
- D. Samples for Initial Selection: For units with factory-applied color finish, color chart of manufacturer's standard colors.

QUALITY ASSURANCE:

- A. Manufacturer Qualifications: Manufacturer shall have a minimum of five (5) years documented experience designing and manufacturing engineered post frame buildings.
 - a. Manufacturer's responsibilities include providing licensed professional engineering services needed to assume engineering responsibility.
- B. Erector Qualifications: Contractor shall have a minimum of five (5) years documented experience erecting and assembling engineered post frame buildings.
- C. Source Limitations: Obtain engineered post frame building components, including primary and secondary framing and metal panel assemblies, from single source from single manufacturer.

DELIVERY, STORAGE, AND HANDLING

- A. Handle and store materials per manufacturer's requirements.
 - a. Store trusses flat, off of ground, and adequately supported to prevent lateral bending.
 - b. Protect trusses from weather by covering with waterproof sheeting, securely anchored.
 - c. Provide for air circulation around stacks and under coverings.
 - d. Store trusses to avoid contact with other materials that could create staining or discoloration.

- e. Inspect trusses upon deliver to Project site and notify manufacturer immediately if members have damage from handling or show discoloration, corrosion, or other evidence of deterioration. Discard and replace trusses that are damaged or defective.

WARRANTY

- A. Manufacturer's Special Warranty – Treated Material: Manufacturer agrees to repair, restore, or replace columns that fail in materials within specified warranty period.
- B. Warranty Period: 50 years from date of Substantial Completion.
- C. Manufacturer shall repair treated structural columns that fail because of insect damage or because of decay that occurs under normal conditions and proper use. If manufacturer is not able to repair structural posts to satisfaction of Architect and Owner, manufacturer shall replace damaged treated structural columns.
- D. Special Warranty on Metal Panel Finishes: Provide written TWO (2) year guarantee on workmanship, including 24 Hour response to written notice by Owner of leak in wall or roof system. Provide manufacturer's written 20 Year minimum warranty on metal finish.
 - a. Warranty Exclusions: Manufacturer will not warrant metal panel finishes damaged due to exposure to atmospheric pollutants including animal waste or other corrosive conditions. Manufacturer will not warrant labor by others.
 - b. Manufacturer shall repair painted steel roofing or siding panels if the paint peels, cracks, checks, flakes or blisters to an extent that is apparent by ordinary outdoor visual observation when exposed to normal weather and atmospheric conditions. If manufacturer is not able to repair steel panels to satisfaction of Architect and Owner, manufacturer shall replace damaged steel panels.

MATERIALS

Wood-Preservative Treated Lumber: Per § 06 10 00 – Rough Carpentry.

Rough Framing: Per § 06 10 00 – Rough Carpentry.

Metal Connectors: Per § 06 10 00 – Rough Carpentry.

Roof and/or Wall Panels: Per § 07 40 00 – Roof & Siding Panels

Flashing/Trim: Per § 07 60 00 – Flashing & Sheet Metal

Fasteners: Per Manufacturer; colors to match metal panels wherever exposed.

FABRICATION

- A. Shop-fabricate wood trusses in TPI inspected plant.
- B. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints.
- C. Fabricate metal connector plates to sizes, configurations, thicknesses, and anchorage details required to withstand design loads for types of joint designs indicated.
- D. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber as required.
 - a. Fabricate wood trusses within manufacturing tolerances in TPI 1.
- E. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

INSTALLATION

- A. Install post frame structure in accordance with manufacturer's written instructions and approved shop drawings.
- B. Note: Building codes vary for each site. Adjustments to meet local code requirements may require additional features.

END OF SECTION

DIVISION 26 - ELECTRICAL

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Division.

SCOPE: Design, supply and install a complete electrical system as shown on the Drawings and specified herein. Work to include all miscellaneous incidental items including lamps necessary for complete and successful operation of all electrical systems.

SHOP DRAWINGS: Submit per Section 01 00 00 - General Requirements, showing all light fixtures, panelboard and heating equipment.

GUARANTEE: Per Section 01 00 00 - General Requirements, one year minimum.

DRAWINGS: Drawings are schematic and indicate general arrangement of electrical equipment. Coordinate all work on site with as-built structural to avoid conflicts with other trades and structural members. Visit site and make allowances for field conditions.

CODE COMPLIANCE: All work is to be done by a licensed electrician in strict compliance with current NEC, Montana Electrical Code requirements, and good trade practices. Contractor to design panel service and branch circuiting. Not more than eight convenience outlets per 20A breaker and adjacent outlets shall be on separate circuits. Circuit lighting & fans separately from wall outlets. Outlets with a home-run arrow indicate a single circuit serves this single outlet.

MATERIALS:

1. All branch circuit wiring to be copper type THHN installed in EMT conduit. Below grade conduit to be electrical grade SCH40 PVC minimum.
2. Fixtures are to be equal to those scheduled on the drawings; and devices are to be nylon body commercial specification grade, 20A, with LEXAN cover plates.
3. Panelboard to be plug-in type with copper buss-bars including all necessary breakers and accessories for complete installation. Provide panel filled with spare 20A breakers in panel for future use where there is spare room in the panel.
4. Service entrance will include breakers for panelboards. Feeder wires from service to panelboards to be copper in EMT metal conduit. Use steel compression or steel set-screw fittings on all EMT conduit, die-cast fittings prohibited.

PERMITS: Obtain and pay for local and State electrical permits upon award of contract. Post a copy of the permit in a prominent place at the jobsite.

INSTRUCTION & EQUIPMENT MANUALS: Provide instruction on operation and maintenance of all electrical fixtures and equipment to a representative selected by the Owner. Provide two bound copies of all Electrical Shop Drawings and Installation. Instructions that come with the equipment and fixtures to the Architect for review and forwarding to the Owner.

FIXTURES:

F1 = LITHONIA CNYLED P2 40K MVOLT DDB.

END OF DIVISION

DIVISION 31 - EARTHWORK

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Division.

AS-BUILT DRAWINGS: Per Section 01 00 00 - General Requirements.

SCOPE: Complete all Site Drainage and Utility Work as shown on the Drawings and as specified.

CONDITIONS AT SITE: Visit the site. Examine and note all conditions as to the character and extent of Work involved. Protect any adjacent property and improvements from damage and replace any portions damaged through this operation. Maintain all bench marks, control monuments, and stakes, whether newly established by Surveyor or previously existing. Protect from damage and dislocation. If necessary to disturb existing bench marks, re-establish in a safe place.

PERMITS & ORDINANCES: Procure and pay for all necessary permits or certificates required by local authorities having jurisdiction over the Work. Comply with all Federal, State and Local Laws. Contractor is responsible for developing a Storm Water Pollution Prevention Plan for the project.

COORDINATION: Cooperate and coordinate the Work with the various Sub-contractors whose work might be affected by operations.

ADJACENT PROPERTY: Restore any damage to adjacent properties, streets, and the like caused by operations of this Division to original condition without additional cost to the Owner.

TESTS: The Foundation Engineer who prepared the Soils Report (if applicable) shall perform all tests and inspections required by this Division. Relative compactions shall be determined as specified in ASTM D-698. Owner will pay for all passing tests; Contractor pays for failed tests and superfluous trips made at the direction of the Contractor.

EXISTING UTILITIES: Where existing utilities not shown on the Drawings are encountered: support, shore up, protect same and immediately notify Architect. Allow entrance, opportunity, and ample time for measures necessary for continuance and/or relocation of such services.

Where noted on Drawings, cut and cap all street connections encountered in the excavating along curb line and mark location so they can subsequently be located and re-connected as required. Any existing utilities in the building envelope should be removed prior to constructing the building pad.

LAYOUT: Layout and Work under this Division shall be made by competent personnel experienced in surveying. If any discrepancies are found by Contractor between the Drawings and actual conditions at the site, Architect reserves right to make such minor adjustments in Work specified as necessary to accomplish the intent of the Contract Documents without increased cost to the Owner.

CLEAN-UP: Remove from the Site all rubbish, debris, etc. resulting from Work in this Division, except as otherwise specified above, per Section 01 00 00 - General Requirements.

END OF DIVISION

31 23 00 - Excavation & Fill

GENERAL REQUIREMENTS: Per DIVISION 31 – EARTHWORK

GENERAL: All work under this section including materials and installation shall conform to **Montana Public Works Standard Specifications (MPWSS), Sixth Edition, April 2010 Section 02200-Earthwork** and this specification is incorporated by reference. Any bidder in doubt about these requirements can obtain a copy of the specific section in question from the Architect.

LOCATE CALL: In addition to requesting local utilities to locate underground utilities and per MCA 69-4-501 to 506 the contractor is required by State Law to notify a One-Call location service before all underground excavation. Notification must be received at least TWO (2) working days prior to excavation. Call 811 or 1-800-424-5555.

PUMPING AND DRAINAGE:

- A. Keep all excavations, pits, trenches, footings, etc. entirely free from water.
- B. Protect excavations from rain or water from any source during construction. Use suitable pumping equipment or other means as required by conditions. Continue pumping as necessary until completion of project or until released by Architect.
- C. When operations are interrupted by unfavorable weather conditions, prepare areas by grading and compaction to avoid ponding and erosion.
- D. Install project storm sewer, catch basin & manholes prior to construction of building pad.

EXCAVATION:

- A. Excavate to depths noted on Drawings, as required for proper completion of all footings and other subgrade level Work and cut to sufficient size to provide ample room for the construction of forms, shoring, and bulk-heading as required.
- B. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - a. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials
- C. Backfill any excess excavation under footings or slabs with structural fill at Contractor's expense.
- D. Shore and brace excavations where necessary to prevent cave-ins, and in accordance with all safety codes and laws for Type A soils.
- E. Excess material not needed for completion of Work is to be disposed of offsite by the Contractor.
- F. Strip suitable topsoil and store separately for final grading.

TRENCHING: Trenching for underground piping, electrical conduits, etc., shall be done by the trade installing such pipes, conduits, etc. Backfilling of trenches to conform with requirements of Compacted Fill.

FILL AND BACKFILL:

- A. **COMPACTED FILL:**
 - a. Material for compacted fill will be selected from suitable on-site excavated material.
 - b. Existing fill material to be removed down to the native material and then replaced and compacted to ASTM D698.
 - c. All fill other than STRUCTURAL FILL will be compacted fill.
 - d. Compacted fill may be spot tested for compliance.

- e. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
- f. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
- g. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.
- h. Compacted fill will be placed in layers not exceeding 8" thick loose lifts. Compaction of each layer will be as follows within +/- 2% of optimum water content.
 - i. Structural Fill Beneath Foundations: 98% of ASTM D698
 - ii. Backfill Against Foundations: 95% of ASTM D698
 - iii. Utility Trench Backfill: 97% of ASTM D698

B. TOPSOIL:

- a. Use only topsoil salvaged from the site with a textural classification of loam, sandy loam or silty loam.
- b. Provide a minimum of 4" and a maximum of 6" of topsoil in seeded and sod areas. Provide a minimum of 12" of topsoil in planting beds.
- c.
- d. Compact all areas to receive seed, sod or plantings to 85% proctor density.

C. GRADING:

- a. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- b. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 - i. Turf or Unpaved Areas: +/- 1".
 - ii. Walks: +/- 3/8".
 - iii. Pavements: +/- 3/8".
- c. Grading inside Building Lines: Finish subgrade to a tolerance of 1" when tested with a 10-foot straightedge.

- D. CRUSHED GRAVEL:** Provide clean washed 3/4" crushed gravel under canopy/building; depth of gravel per plans.

FINISH GRADING: Perform all finish grading required as indicated or reasonably inferred to permit installation of Work of others or as shown on Drawings. Fine grade all topsoil areas to the lines, grades and elevations specified. Note areas to receive organic or mineral mulch or sod and adjust grades accordingly. Do not place topsoil until the designated areas are prepared and all construction work in the area is completed. Remove and dispose of all clods, rocks, large roots, litter, construction debris and all other foreign material from the topsoil before placement.

At completion of Work, entire site including any waste fill areas will be left in a clean and finished condition.

END OF SECTION

DIVISION 32 - EXTERIOR IMPROVEMENTS

CONDITIONS OF THE CONTRACT and DIVISION 01, as indexed, apply to this Division.

AS-BUILT DRAWINGS: Per Section 01 00 00 - General Requirements.

SCOPE: Complete all Site Drainage and Utility Work as shown on the Drawings and as specified.

CONDITIONS AT SITE: Visit the site. Examine and note all conditions as to the character and extent of Work involved. Protect any adjacent property and improvements from damage and replace any portions damaged through this operation. Maintain all benchmarks, control monuments, and stakes, whether newly established by Surveyor or previously existing. Protect from damage and dislocation. If necessary, to disturb existing bench marks, re-establish in a safe place.

PERMITS & ORDINANCES: Procure and pay for all necessary permits or certificates required by local authorities having jurisdiction over the Work. Comply with all Federal, State and Local Laws.

COORDINATION: Cooperate and coordinate the Work with the various Sub-contractors whose work might be affected by operations.

ADJACENT PROPERTY: Restore any damage to adjacent properties, streets, and the like caused by operations of this Division to original condition without additional cost to the Owner.

TESTS: The Foundation Engineer who prepared the Soils Report (if applicable) shall perform all tests and inspections required by this Division. Relative compactions shall be determined as specified in ASTM D-698. Owner will pay for all passing tests; Contractor pays for failed tests and superfluous trips made at the direction of the Contractor.

EXISTING UTILITIES: Where existing utilities not shown on the Drawings are encountered: support, shore up, protect same and immediately notify Architect. Allow entrance, opportunity, and ample time for measures necessary for continuance and/or relocation of such services.

Where noted on Drawings, cut and cap all street connections encountered in the excavating along curb line and mark location so they can subsequently be located and re-connected as required.

LAYOUT: Layout and Work under this Division shall be made by competent personnel experienced in surveying. If any discrepancies are found by Contractor between the Drawings and actual conditions at the site, Architect reserves right to make such minor adjustments in Work specified as necessary to accomplish the intent of the Contract Documents without increased cost to the Owner.

CLEAN-UP: Remove from the Site all rubbish, debris, etc. resulting from Work in this Division, except as otherwise specified above, per Section 01 00 00 - General Requirements.

END OF DIVISION

32 31 00 - Fences & Gates

GENERAL REQUIREMENTS: Per DIVISION 32 – EXTERIOR IMPROVEMENTS

SCOPE OF WORK: Remove and Modify existing chain link fence as needed to allow for new work. Salvage and re-use existing chain link fabric, posts, gates and related. Use new galvanized wire ties to re-secure fabric.

TEMPORARY PROJECT FENCE UP TO 8' HEIGHT:

- A. General: Posts and rails to be ASTM F1043 Group 1C hot dipped galvanized. All fittings to be pressed steel or malleable iron and hot dip galvanized. Tie wires to be minimum 9 ga. aluminum or 11 ga. galvanized steel. Mechanically drive all posts 3'-0" minimum into the ground. Fence to follow ground line.
- B. As shown on Site Plan, provide a chain link fence as follows:
 - a. Terminal Posts: 2.375" 3.12 lbs./ft posts at corners, ends, and at mid-point of runs exceeding 300'. Set posts in min. 12" diameter 42" deep concrete base. Provide standard caps, ties and diagonal bracing.
 - b. Line Posts: 1.90" 2.28 lbs./ft line posts at 10'-0" O.C. maximum. Provide standard caps for top rail and fastening clips at 12".
 - c. Rail & Post Braces: 1.66" 1.83 lbs./ft with 6" couplings at 21' max. Fabric tie wire spaced at 24" O.C. max.
 - d. Fabric: Fabric woven from 9 ga. ASTM A392 hot-dip galvanized after weaving (GAW) wire in 2" mesh knuckled under at both selvages.
 - e. Gate Posts: 2.875" 4.64 lbs./ft minimum or larger as recommended by manufacturer for gate width and fence height.
 - f. Gate Frames: 1.66" 1.83 lbs./ft tube with welded or fitted corners. Provide braces or trusses when necessary. Include all necessary hinges and fittings including latch. All parts galvanized.
 - g. Barbed Wire (if applicable): Aluminum coated double strand 12 1/2 ga. twisted wire with 14 ga., 4 point round aluminum barbs spaced on 5" centers per ASTM A585. Provide all necessary fittings for 3 wire application.
- C. Temporary fence may be pre-made, free standing, panelized sections.

END OF SECTION

32 90 00 - Landscaping

GENERAL REQUIREMENTS: Per DIVISION 32 – EXTERIOR IMPROVEMENTS

GENERAL:

- A. All plants furnished by Contractor shall be true to name. Conform to “Standardized Plant Names” by American Joint Committee on Horticulture Nomenclature. All Work shall conform to applicable requirements of American Association of Nurserymen, Inc. Standards.
- B. Provide legible labels attached to all plants, specimens, bundles, boxes, bales or other containers, indicating botanical genus, species and size of each.

GRADES: Grade of all finished lawn and planting areas shall, in general, be 2” lower than curb tops and sidewalks. Slope approximately 1” in ten (10) feet from sidewalk and determine slope between sidewalk and building by elevations of sidewalk. Crown any areas surrounded by sidewalks or curbs to provide proper drainage and pleasing appearance.

PREPARATION OF SUBSOIL: When subgrade has been established by others and approved, smooth over to remove ridges and depressions so surface is parallel to finished grade.

PLANTING AREAS: Plant areas mean pits for individual trees, shrubs and vines or lawn areas shown on Drawings or specified herein. Locate all such areas as shown on Drawings and stake out for approval prior to planting.

REPLACEMENT: One year from date of Substantial Completion a final inspection of Work will be made. Remove plants not in a satisfactory and healthy condition from the site and replace with materials of like kind and size and in a manner specified for original planting at no additional cost to Owner. This will apply unless Owner has not maintained Work during the year in a manner prescribed in writing by the Contractor.

PREPARATION OF LAWN AND GROUND COVER AREAS:

- A. All topsoil brought to the job shall be a fertile, friable natural sandy loam, without admixture of subsoil material. It shall be live soil and contain a normal amount of decomposed organic matter and shall be free from heavy alkaline soil, coarse sand, stones, lumps, tools, sticks, or other foreign matter.
- B. Over prepared subgrade, topsoil shall be spread to such a depth that after seeding or planting, and after area has been compacted and planted, surface shall conform to lines and grades designated.
- C. After topsoil has been spread, the area shall be lightly raked to remove all additional stones, roots, lumps or any other foreign material. The finished surface shall be loose, smooth and pulverized.

LAWN HYDRO-SEEDING:

- A. Mix Seed, Fertilizer, Tackifier and Fiber Mulch in water using equipment designed specifically for hydro-seed application. Mix until blended to a uniform homogenous slurry suitable for application and continue mixing during application. Apply slurry at a uniform rate to all areas to be seeded in a single process; apply as required to achieve a min. uniform sowing rate of 125 pounds per acre.
- B. After one year inspect lawns for bare areas and infill with sandy soil and re-seed to remove any areas void of growth.
- C. Seed Mixture for hydro-seeding and infill patching shall be as follows:
 - a. For lawns to be mowed (V):
 - i. 30% ***Baron Kentucky Bluegrass***
 - ii. 30% ***Pennfine Perennial Ryegrass***
 - iii. 10% ***Glade Kentucky Bluegrass***
 - iv. 15% ***Pennlawn Creeping Red Fescue***
 - v. 15% ***Bison*** or ***Cody Buffalograss***

- b. All seed is to be certified for minimum 98% purity and 90% germination by AOSA and USDA standards. Mix proportions are to be by weight.
- D. NOTE: If less than 500 SF of lawn is impacted by grading and site work lawns may be re-seeded by broadcast seeding using the same mix noted above.

SPRINKLER SYSTEM:

- A. Modify and repair existing lawn irrigation system for yards and areas impacted by new grading and building construction.
- B. Test all zones adjacent to new building area to make sure they are fully functional. Replace any components damaged or otherwise made non-functional by new work.

END OF SECTION